

The Effect of a Proposed Recreational Sports Program on Influencing Certain Personality Traits in Hearing-Impaired Children (Ages 09-12) (A field study on a sample of students at the Pedagogical School for the Deaf and Dumb in M'Sila)

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Received : 12/06/2024 ; Accepted : 25/09/2024 ; Published : 02/11/2024

Abstract:

This study aimed to explore the impact of a proposed recreational sports program on certain personality traits in hearing-impaired children. The researcher employed an experimental approach, utilizing the personality traits scale for athletes on a sample of 15 individuals with special needs (hearing-impaired) who were intentionally selected. The sample consisted of a single group, aged between 9-12 years, from the school for deaf and mute children in the municipality of M'Sila. This group was subjected to the proposed recreational sports program in the study. The researchers used both the Freiburg Personality Inventory, translated and adapted to the Arab environment by Dr. Mohamed Hassan Allawi, and the proposed recreational sports program (designed by the researchers). The study's findings revealed that the proposed recreational sports program contributed to reducing levels of nervousness, aggressiveness, depression, excitability, and control, while also enhancing and raising the level of sociability.

Keywords: Recreational Physical Activity, Personality Traits, Hearing-Impaired

1. Introduction

In contemporary societies, there has been a growing focus on the welfare of individuals with hearing disabilities, providing them with support to alleviate their struggles. Various humanitarian organizations have intensified efforts to reduce the impact of disabilities and create healthier conditions. Undoubtedly, people with disabilities have shifted from a state of dependency to active participation. Developed countries have progressively adopted this approach, aiming to address the challenges faced by hearing-impaired individuals and guide them to be productive members of society (Jawaldeh, 2012, p. 15).

Many researchers and theorists stress the importance of supporting hearing-impaired individuals from an early age, particularly during the early intervention phase, which is considered critical for their development. Essential to this support is teaching alternative communication methods, enabling hearing-impaired children to connect with others. Modern technological approaches have also enhanced communication for this group. This focus on hearing impairment is significant, as it is a challenging disability. A deaf person may perceive numerous stimuli but struggle to interpret them, resulting in an inability to respond, often leading to frustration. This disability is characterized by an individual's inability to use hearing normally, ranging from complete hearing loss to partial hearing loss, known as hearing impairment, where residual hearing can be utilized. With the attention of specialists, individuals with hearing disabilities can develop life skills to live a fulfilling life within their community (Hala Al-Saeed, 2016, p. 19).

When examining personality from the perspectives of sociologists, psychologists, and psychoanalysts, it is often seen as a set of traits that determine responses to specific situations, guiding behavior. Each individual has personality traits that shape their reactions, with hearing-impaired individuals potentially displaying traits such as extroversion or introversion, positivity or negativity, cheerfulness or seriousness, kindness, or sternness. These personality traits differ from physical and cognitive abilities, though they are related.

Positive personality, in particular, is characterized by the ability to maximize the benefits of life experiences, showing traits of health, strength, vitality, a wide range of interests, and courage in supporting opinions and expressing desires. A positive personality is rich in ideas, effectively interacts with others, takes on responsibilities, views failure as a stepping stone to success, and finds satisfaction in both work and family life. Above all, a positive personality finds joy in life itself, embracing creative opportunities through recreational activities (Tehani, 2001, p. 122).

There is a common saying that knowing what an individual does in their free time can reveal their personality, as leisure activities are an integral, if not the most important, part of a person's character. Relying solely on work to develop one's personality covers only a fraction of it. Social psychologists emphasize the importance of a holistic perspective in our lives, acknowledging the relationships between different aspects of our inner and outer worlds, and between individuals and their environments. Ignoring the potential that leisure offers for personality development undermines this integration and wholeness.

Physical and social skills directly influence hearing-impaired individuals' acceptance of one another, particularly among playmates, and this acceptance or lack thereof serves as a solid foundation for personality development. By the end of primary school and the beginning of middle school, children can be guided toward a variety of recreational activities, including sports, music, crafts, dance, drama, and other enriching experiences. While play and recreation are essential during middle childhood, their importance escalates in adolescence, as this stage involves both visible and subtle changes that drive hearing-impaired individuals to seek social acceptance in their family, school, and community roles.

Evaluating the benefits of recreational programs for personality development naturally involves considering social influences. Psychologists affirm that an individual's expression and self-perception are central to their personality. A hearing-impaired child inherits physical form and intellectual capacity but not self-perception or self-concept, which are shaped by environmental influences and psychological experiences. Recreation opens various avenues for personality development, such as building self-confidence and self-respect. For instance, a student struggling academically may find compensatory self-worth in recreational activities, like writing, playing a musical instrument, acting, or engaging in creative arts, which can pave the way for a successful career and a captivating personality. Recreational activities provide numerous opportunities for accomplishment, offering individuals profound satisfaction and joy when they realize, "I did it on my own" (Tehani, 2001, p. 123).

Historically, people have recognized the therapeutic value of physical activity for illness and disability, as movement alleviates pain and serves as treatment across various ages and conditions. Since World War II, societies have increasingly focused on rehabilitating individuals with disabilities, many of whom were affected by the war. This led to a growing need for medical, social, and occupational rehabilitation, supported by both governmental and private organizations. A wide range of recreational sports has become available, offering activities suited to diverse abilities. It is essential that recreational activities be safe and free from side effects that could worsen a disability, thus promoting physical, psychological, therapeutic, and moral benefits simultaneously.

Physical exercise, or recreational sport, is currently defined by UNESCO as any physical activity with the characteristics of play, practiced individually or with others. This definition encompasses both competitive and non-competitive activities, regulated by specific rules. Physical education is recognized as a balanced, holistic approach to an individual's physical, psychological, motor, and social development, enriching cognitive and cultural awareness through diverse sports activities (Helmy & Farhat, 2008, p. 45).

In recent years, there has been increased emphasis from scientists and specialists on promoting recreational physical activities, not for competition but as a preventive and therapeutic measure against diseases associated with inactivity and psychological issues arising from modern-day stress, such as depression, anxiety, and nervousness. Physical activity has numerous benefits across vital areas, enhancing intelligence, academic achievement, social maturity, physical and mental health, and reducing risks of heart disease, diabetes, back pain, and obesity. Additionally, it cultivates positive attitudes toward health and physical activity. In the realm of academic achievement, Hassanin's study (1997) demonstrated a positive relationship between intelligence and four physical fitness components: coordination, balance, agility, and accuracy. In the social and productive domains, Ibrahim (2001) noted that physical fitness promotes social development, with social interaction being fundamental to personal growth. Moreover, physical fitness fosters the acquisition of social experiences that contribute to personality formation, and there is a direct relationship between fitness and productivity, as work injuries are often due to fatigue. In health, Clark's study (1987) highlighted physical activity's role in health preservation, enabling efficient task performance and longevity. Clark thus categorized various motor factors essential to human life, emphasizing

fitness as a primary dimension. Corbin and Lindsey (1996) underscored that engaging in physical activity depends on cultivating positive attitudes, values, and behavioral patterns toward exercise. Andersen (2005) further stated that positive attitudes toward physical activity play a crucial role in motivating individuals to engage in and sustain such activities, whereas negative attitudes hinder participation. Attitudes have a significant influence on behavior, giving meaning to an individual's perceptions and activities, ultimately enhancing their enthusiasm and commitment to physical activity (Magdy Hussein, 2020, p. 2016).

2. General Hypothesis:

The proposed recreational sports program has a positive effect on developing certain personality traits in hearing-impaired children.

• Specific Hypotheses:

- 1- There are statistically significant differences between pre- and post-measurement levels of nervousness in hearing-impaired children.
- 2- There are statistically significant differences between pre- and post-measurement levels of depression in hearing-impaired children.
- 3- There are statistically significant differences between pre- and post-measurement levels of excitability in hearing-impaired children.
- 4- There are statistically significant differences between pre- and post-measurement levels of sociability in hearing-impaired children.
- 5- There are statistically significant differences between pre- and post-measurement levels of aggressiveness in hearing-impaired children.
- 6- There are statistically significant differences between pre- and post-measurement levels of control in hearing-impaired children.

3. Study Objectives:

- ❖ To examine the impact of the proposed recreational sports program on certain personality traits in hearing-impaired children.
- ❖ To measure the differences between pre- and post-test measurements for each variable (nervousness, depression, excitability, sociability, aggressiveness, and control).

4. Significance of the Study:

- ❖ Aligns with contemporary global trends in supporting individuals with special needs, especially those with hearing impairments.

- ❖ Develops a recreational sports program aimed at fostering desired traits in hearing-impaired individuals while reducing certain psychological traits and disorders.
- ❖ Highlights the importance of recreational physical activity and personality traits, which are critical topics in the field of disability sports, particularly for their role in restoring lost psychological factors in hearing-impaired children.
- ❖ Addresses the significance of the variables in the study, focusing on the "recreational sports program" as a tool for psychological relief, achieving goals, instilling personal values, and fostering satisfaction and enjoyment through participation in various activities and competitions.
- ❖ Emphasizes the importance of the middle school age group, which is marked by physiological changes and alterations in cognitive, emotional, and social aspects, often leading hearing-impaired children to experience stress and psychological disorders, such as nervousness, anxiety, aggressiveness, and depression. This age is particularly critical as it involves identity formation and self-assertion in society.
- ❖ Highlights the shortage of sports programs and activities tailored for individuals with special needs at the local level, despite evidence of the positive effects of recreational sports activities on both non-disabled individuals and those with special needs.

5. Study Terminology:

1- Recreational Sports Program:

A set of recreational activities scientifically designed to suit the physical, mental, psychological, social, and health capacities of the participants, aiming to achieve the goals of the recreational program (Salama & Al-Battrawi, 2013, p. 53). A program is essentially a plan comprising various activities to accomplish a specific objective, with clearly defined beginnings and endings. Programs are means for implementing strategies or translating them into reality (Al-Qaryouti et al., 2009, p. 123).

2- Hearing Impairment:

Abdel Hai (1998) defines hearing impairment as "a condition where an individual suffers from hearing loss due to genetic, congenital, or acquired environmental factors, resulting in social or psychological impacts, or both, which hinder their ability to learn and perform certain social activities that an average individual can perform with adequate skill" (Jawaldeh, 2012, p. 31). Al-Qaryouti (2006) defines deaf children as "individuals who cannot utilize hearing in daily life, either born completely deaf or with such significant impairment that they cannot rely on their ears for understanding speech and learning spoken language, ultimately resulting in an inability to hear speech" (Jawaldeh, 2012, p. 33).

3- Personality Traits:

❖ Definition of Traits:

A trait is a particular characteristic or quality that distinguishes an individual, which may be innate (inherited) or acquired. It is seen as a general tendency that predicts an individual's behavior when interacting with their environment or handling situations and challenges. Cattell defines a trait as a relatively stable tendency for predominant reactions, reflecting an individual's internal and hidden attitudes. Allport describes it as a dynamic organization within an individual, comprising the psychophysiological systems that shape their unique adjustments to their environment (Fayad Al-Khazaala et al., 2018, p. 224).

❖ Definition of Personality:

Guilford defines personality as a unique pattern composed of the individual's specific and general traits (Abd al-Khaleq, 2019, p. 37). From the perspective that personality is a defining attribute of a person, Eysenck views each characteristic that differentiates an individual as a component of their personality. Traits such as intelligence, mental and physical abilities, skills, values, attitudes, inclinations, and emotions constitute elements of personality. Thus, Eysenck defines personality as the aggregate of physical, mental, temperamental, social, and moral characteristics that distinguish one individual from others (Fawzi & Fadil, 2005, p. 13).

6. Previous Studies

1- Study by Sghairi Rabah et al. (2019):

Title: The Role of Adapted Sports Activities in Developing Certain Personality Traits among Hearing-Impaired Individuals, published in the Journal of Sports Creativity for Physical and Sports Activities Sciences and Techniques, Issue 3, Volume 10, University of M'Sila.

This study aimed to investigate the role of adapted sports activities in developing specific personality traits (control, responsibility, emotional stability, sociability) in the hearing-impaired population. The researchers used a descriptive approach on a sample of 16 hearing-impaired children from the school for hearing-impaired children in M'Sila, divided into two groups: eight non-participants in adapted sports activities and eight participants. The personality traits scale developed by "Gordon Allport," translated into Arabic by "Jaber and Abu Hatab," was used. The study results demonstrated the effectiveness of adapted physical activity in enhancing various personality traits, with the hearing-impaired participants in adapted physical activity showing higher levels of the studied traits compared to non-participants.

2- Study by Adel Mohammed Awad Abu Khousa (2019):

Title: The Effect of a Proposed Recreational Sports Program on Improving Certain Social Interaction Behaviors in Children with Autism, PhD Thesis, Philosophy in Physical Education and Sports, University of Sudan.

This study aimed to determine the impact of a proposed recreational sports program on improving social interaction behaviors (communication, cooperation, perception, symbolic gestures) in children with autism. The researcher used an experimental method on a single group of nine children at the Right to Life Association in Gaza, with pre- and post-measurements. Results indicated that the recreational sports program effectively improved social interaction and behaviors, including communication, cooperation, role perception, and symbolic gestures, in children with autism.

3- Study by Slimani Rahma et al. (2021):

Title: Study of Personality Traits in Students Engaged in Handball within the Non-Curricular Activities of Middle School, published in the Journal of Basic Education, University of Babylon, Iraq, Issue 113, Volume 27.

This study explored the characteristics and traits of students involved in handball activities, aiming to develop and enhance their personality. Using a descriptive approach, the study involved a sample of 196 middle school students selected purposively. The personality traits scale developed by the researcher included dimensions such as extraversion, sociability, self-esteem, courage, responsibility, independence, persistence, emotional stability, and control. The results showed high levels in all measured traits among students participating in school handball activities.

4- Study by Shrida Sharma (2021):

Title: The Impact of Childhood Sports Participation on the Development of Personality Health.

This study aimed to understand the impact of sports participation on children's personality health, focusing on physical growth, biological maturity, behavioral development, psychological well-being, and previous experiences in sports. The study measured personality traits, particularly extraversion and neuroticism, among 114 females and 30 males. Results showed that children who enjoyed sports developed healthier personalities as adults, characterized by higher extraversion and lower neuroticism. Social interaction in sports was identified as a key factor, contributing to enhanced social engagement and personality development.

5- Study by Horma Zakaria (2024):

Title: The Effect of a Proposed Recreational Sports Program on Developing Certain Personality Traits in Hearing-Impaired Individuals, PhD Dissertation, Recreational Physical Activity Specialization, University of Laghouat, Algeria.

This study investigated the impact of a proposed recreational sports program on developing personality traits in hearing-impaired individuals. Using an experimental method with a single group, the study involved a sample of 40 hearing-impaired individuals aged 9-13 from a school in M'Sila. The researcher employed the Freiburg Personality Inventory, translated by Dr. Mohamed Hassan Allawi, alongside the proposed recreational sports program. The results revealed statistically significant differences between pre- and post-measurements, indicating a reduction in negative traits such as nervousness, depression, excitability, aggressiveness, and control among hearing-impaired individuals, confirming the program's positive impact on personality development.

7. Research Methodology Procedures

1- Study Methodology:

Given the study topic, "The Effect of a Proposed Recreational Sports Program on Influencing Certain Personality Traits in Hearing-Impaired Children," the researcher adopted an experimental design with a single group using pre- and post-measurements.

2- Main Study Phase:

This phase involved implementing the recreational program and collecting, organizing, and analyzing the study data.

3- Description of Measurement Tools Used:

The study relied on the Mohamed Hassan Allawi Personality Traits Scale and some sessions from the proposed recreational sports program.

3.1. Mohamed Hassan Allawi Personality Traits Scale:

The Freiburg Personality Inventory (FPI), originally developed by Jürgen Fahrenberg, Herbert Selg, and Rainer Hampel, psychology professors at the University of Freiburg, Germany, in 1980, was used. The inventory aims to measure nine general personality dimensions in addition to three sub-dimensions and contains 202 statements. It has two versions, A and B, each with 114 statements. Diel from the University of Giesen, Germany, also developed a short version that includes the first eight dimensions with 56 statements. Mohamed Hassan Allawi adapted both the original and shortened versions of this inventory into Arabic.

This scale is particularly suitable for measuring personality traits in sports players and includes eight dimensions with positive and negative items. These dimensions are outlined as follows (Mohamed Hassan Allawi, 2007, p. 137).

Table 1: Dimensions of the Freiburg Personality Inventory with Positive and Negative Statement Numbers

Number	Dimension	Positive Statements	Negative Statements
1	Nervousness	54.38.23.18.15.4.3	/
2	Depression	55.52.40.37.34.25.21	/
3	Excitability	53.46.39.36.33.31.05	/
4	Sociability	48.28.12	02.14.47.51
5	Calmness	56.45.43.42.29.20.1	/
6	Aggressiveness	49.44.41.27.26.10.7	/
7	Control	50.30.24.22.16.11.9	/
8	Regulation	35.32.19.17.13.8.6	/

Psychometric Properties of the Mohamed Hassan Allawi Personality Traits Scale in the Current Study:

❖ **Internal Consistency Validity:**

The validity of the scale was verified through the calculation of internal consistency for the statements. This method involves calculating the Pearson correlation coefficient between each statement and the total score of the dimension to which it belongs. The table below presents the results obtained:

Table 2: Correlation Coefficients Between Each Statement and the Total Score of Its Corresponding Dimension

Statement	Correlation	Statement	Correlation	Statement	Correlation	Statement	Correlation
Nervousness		Excitability		Calmness		Control	
S3	**0.67	S5	*0.45	S1	0.02	S9	**0.80
S4	*0.43	S31	*0.45	S20	0.01	S11	**0.75
S15	**0.83	S33	**0.49	S29	0.04	S16	**0.80
S18	**0.56	S36	**0.50	S42	-0.02	S22	**0.79
S23	**0.83	S39	**0.62	S43	0.20	S24	**0.50
S38	**0.75	S46	**0.50	S45	0.02	S30	0.21
S54	**0.71	S53	0.35	S56	0.03	S50	**0.79
Depression		Sociability		Aggressiveness		Regulation	

س21	**0.83	S2	**0.47	S7	**0.67	S6	0.07
S25	**0.59	S12	**0.51	S10	**0.51	S8	0.22
S34	**0.68	S14	**0.50	S26	**0.83	S13	0.14
S37	**0.62	S28	0.32	S27	**0.87	S17	0.09
S40	**0.58	S47	**0.76	S41	**0.75	S19	0.07
S52	**0.90	S48	**0.66	S44	**0.73	S32	0.23
S55	**0.89	S51	**0.64	S49	**0.92	S35	0.18

Significant at ($\alpha = 0.01$), * Significant at ($\alpha = 0.05$)

It is evident from Table 2 that most of the correlation coefficients between statements and the total score of their corresponding dimension were statistically significant at significance levels of ($\alpha = 0.01$) and ($\alpha = 0.05$), except for the dimensions of Calmness and Regulation. The statements within these two dimensions were not statistically significant at the ($\alpha = 0.05$) level, leading to the exclusion of these dimensions. Additionally, statements 53 in the Excitability dimension, 28 in the Sociability dimension, and 30 in the Control dimension were removed due to lack of statistical significance at the ($\alpha = 0.05$) level.

Reliability:

The reliability of the scale was confirmed using Cronbach’s alpha coefficient, as well as the Pearson correlation coefficient between the first and second applications, with a 14-day interval between the two applications in the pilot study. The following table presents the results obtained:

Table 3: Cronbach’s Alpha Coefficient and Pearson Correlation Coefficient Between the First and Second Applications

Dimension	Test-Retest Reliability Coefficient	Cronbach’s Alpha
Nervousness	**0.56	0.89
Depression	**0.64	0.80
Excitability	**0.78	0.82
Sociability	**0.53	0.80
Calmness	0.27	0.50
Aggressiveness	**0.78	0.91
Control	**0.71	0.83

Regulation	0.21	0.45
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It is evident from Table 3 that the Cronbach's Alpha value for the Nervousness dimension was 0.89, while the Alpha value for the Depression dimension was 0.80. For the Excitability dimension, Cronbach's Alpha was 0.82, and for the Sociability dimension, it was 0.80. The Calmness dimension had a lower Alpha value of 0.50, whereas the Aggressiveness dimension had a high Alpha value of 0.91, and the Control dimension had an Alpha value of 0.83. Lastly, the Regulation dimension also had a low Alpha value of 0.45.

Looking at the Pearson correlation coefficients between the two applications, most correlations were statistically significant at the significance levels of ($\alpha = 0.01$) and ($\alpha = 0.05$), except for the Calmness and Regulation dimensions, where the Pearson correlation values were not statistically significant at the ($\alpha = 0.05$) level, leading to their exclusion.

4- Main Study:

- **Study Population:**

The study population consisted of children with hearing impairments within the school for young deaf and mute children in M'Sila, totaling 40 students.

- **Study Sample:**

The sample included 15 hearing-impaired children, representing 37.5% of the study population. They were selected purposefully based on the following criteria:

- ✓ **Type of impairment:** Genetic and acquired, with similar proportions.
- ✓ **Health condition:** Sample members were free from other disabilities or accompanying conditions that could hinder sports participation.
- ✓ **Educational level:** The sample included middle school students.
- ✓ **Exclusion criteria:** Some students were excluded due to reassignment to other classes.
- ✓ **Isolation from other instructors:** The sample was excluded from interaction with other instructors or trainees within the school.
- ✓ **Sports activity restriction:** Sample members did not participate in any sports activities inside or outside the institution, except for the weekly session specified in the curriculum with the trainee researcher.

- **Study Timing:**

- ✓ **Pre-test measurement:** Conducted from 02/02/2024 to 17/02/2024

- ✓ **Application of the proposed recreational sports program:** Conducted from 02/03/2024 to 06/06/2024
- ✓ **Post-test measurement:** Conducted from 07/06/2024 to 12/06/2024

5- Statistical Methods Used in the Study:

The statistical methods were applied using the Statistical Package for the Social Sciences (SPSS), version 22, with the following procedures:

1. For Psychometric Properties:

- ✓ **Cronbach's Alpha** for internal consistency.
- ✓ **Pearson Correlation Coefficient** for test-retest reliability and internal consistency validity.

2. For Testing Study Hypotheses:

- ✓ **Shapiro-Wilk Test** for normality.
- ✓ **Arithmetic Mean.**
- ✓ **Standard Deviation.**
- ✓ **T-test for Paired Samples** for statistical significance.
- ✓ **Significance Level (Sig).**
- ✓ **Effect Size (Cohen's D)** for practical significance.

1. Presentation and Interpretation of Results for the First Hypothesis:

The first hypothesis of this study stated: "There are statistically significant differences between the pre-test and post-test mean scores for nervousness levels in hearing-impaired children."

To verify this hypothesis, a T-test for statistical significance was used. After conducting the statistical analysis, the following result was obtained:

Table 4: Differences Between Pre-Test and Post-Test Mean Scores in Nervousness

Shapiro-Wilk Test	Significance Level 0.215/0.051	Result: Normal distribution			Appropriate Test: Paired Samples T-test			
Recreational Sports Program		Sample Size	Mean	Standard Deviation	Degrees of Freedom	T Value	Significance Level (sig)	Decision

Nervousness	Pre-Test	15	13.73	3.78	14	2.99	0.01	Significant at 0.05
	Post-Test	15	10.20	2.88				

It is evident from Table 4 that the pre-test mean for nervousness was 13.73, with a standard deviation of 3.78, which is higher than the post-test mean of 10.20, with a standard deviation of 2.88. The T-test value for the difference was 2.99, with a significance level (SIG) of 0.01, which is statistically significant as it is well below the threshold of ($\alpha = 0.05$). This indicates that the proposed recreational sports program effectively reduced the nervousness trait in hearing-impaired children in the post-test. Consequently, we conclude that "there are statistically significant differences between the pre-test and post-test measurements in nervousness levels, favoring the post-test for hearing-impaired children." The confidence level for this result is 95%, with a 5% margin of error.

The researchers believe that nervousness in hearing-impaired children is often an acquired trait from their surrounding environment, sometimes mixed with hereditary factors or incorrect beliefs. Nervousness as a trait is challenging to fully address in the short term and may require years to diminish as the child ages. The proposed recreational sports program contributed to reducing this trait, but it may reappear in situations that trigger it, albeit to a lesser extent. The direct interaction during recreational games generates a type of "positive nervousness" toward peers, either for the purpose of winning or releasing pent-up emotions, rather than causing harm to peers. This type of nervousness is viewed by the researchers as a positive form, reaching its peak during controlled competition. The recreational sports program is designed to foster healthy competition without direct confrontation, thereby not aiming to suppress nervousness but rather to express, adjust, and guide it through behavior modification led by the researcher, redirecting the focus of attention.

2. Presentation and Interpretation of Results for the Second Hypothesis:

The second hypothesis of this study stated: "There are statistically significant differences between the pre-test and post-test mean scores for depression levels in hearing-impaired children."

To verify this hypothesis, a T-test for statistical significance was used. After conducting the statistical analysis, the following result was obtained:

Table 5: Differences Between Pre-Test and Post-Test Mean Scores in Depression

Shapiro-Wilk Test	Significance Level 0.201/0.316	Result: Normal distribution	Appropriate Test: Paired Samples T-test
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Recreational Sports Program		Sample Size	Mean	Standard Deviation	Degrees of Freedom	T Value	Significance Level (sig)	Decision
Depression	Pre-Test	15	14.40	3.85	14	3.90	0.00	Significant at 0.05
	Post-Test	15	10.73	3.10				

It is evident from Table 5 that the pre-test mean for depression was 14.40, with a standard deviation of 3.85, which is higher than the post-test mean of 10.73, with a standard deviation of 3.10. The T-test value for the difference was 3.90, with a significance level (SIG) of 0.00, which is statistically significant as it is below the threshold of ($\alpha = 0.05$). This indicates that the proposed recreational sports program had an effect in reducing the depression trait in hearing-impaired children in the post-test. Consequently, we conclude that "there are statistically significant differences between the pre-test and post-test measurements, favoring the post-test for depression levels in hearing-impaired children." The confidence level for this result is 95%, with a 5% margin of error.

The researchers believe that depression in hearing-impaired children manifests as feelings of sadness, despair, low morale, lack of self-worth, and inability to enjoy life. This condition includes symptoms such as loss of hope, indifference to current events, difficulty concentrating, sleep and appetite disturbances, withdrawal, and avoidance of social interactions. The recreational sports program offers these children an opportunity for social interaction, reshaping their thoughts toward positivity, which can improve their mood. The program's appeal and excitement help fulfill a need for self-esteem, allowing depression in hearing-impaired children to be managed as a treatable condition. The program also enhances social interaction, allowing children to meet others of various ages and backgrounds, which can improve their mood and sense of self-worth through teamwork and shared goals.

3. Presentation and Interpretation of Results for the Third Hypothesis:

The third hypothesis of this study stated: "There are statistically significant differences between the pre-test and post-test mean scores for excitability levels in hearing-impaired children."

To verify this hypothesis, a T-test for statistical significance was used. After conducting the statistical analysis, the following result was obtained:

Table 6: Differences Between Pre-Test and Post-Test Mean Scores in Excitability

Shapiro-Wilk Test	Significance Level 0.220/0.242	Result: Normal distribution			Appropriate Test: Paired Samples T-test			
Recreational Sports Program		Sample Size	Mean	Standard Deviation	Degrees of Freedom	T Value	Significance Level (sig)	Decision
Excitability	Pre-Test	15	15.33	2.69	14	6.95	0.00	Significant at 0.05
	Post-Test	15	8.60	2.35				

It is evident from Table 6 that the pre-test mean for excitability was 15.33, with a standard deviation of 2.69, which is higher than the post-test mean of 8.60, with a standard deviation of 2.35. The T-test value for the difference was 6.95, with a significance level (SIG) of 0.00, which is statistically significant as it is below the threshold of ($\alpha = 0.05$). This indicates that the proposed recreational sports program had an effect in reducing excitability levels in hearing-impaired children in the post-test. Consequently, we conclude that "there are statistically significant differences between the pre-test and post-test measurements, favoring the post-test for excitability levels in hearing-impaired children." The confidence level for this result is 95%, with a 5% margin of error.

The researcher suggests that feelings of depression, isolation, pessimism, or introversion may lead to prolonged self-isolation, a trait that is difficult to address. Emotional expression, such as anger or excitement, should not be suppressed; instead, it should be redirected into competition with peers, sports matches, or positive challenges. The proposed recreational sports program allows for the positive expression of emotions during play, respecting the rules and conditions of the game. Hearing-impaired children greatly benefit from positive emotional engagement, which can help reduce traits like aggressiveness. The program provides them with emotional responses, essential in the interaction between an individual and their environment, and the emotional responses during play influence the behavior of hearing-impaired children in a regulated and rational environment.

4. Presentation and Interpretation of Results for the Fourth Hypothesis:

The fourth hypothesis of this study stated: "There are statistically significant differences between the pre-test and post-test mean scores for sociability levels in hearing-impaired children."

To verify this hypothesis, a T-test for statistical significance was used. After conducting the statistical analysis, the following result was obtained:

Table 7: Differences Between Pre-Test and Post-Test Mean Scores in Sociability

Shapiro-Wilk Test	Significance Level 0.067/0.059	Result: Normal distribution			Appropriate Test: Paired Samples T-test			
Recreational Sports Program		Sample Size	Mean	Standard Deviation	Degrees of Freedom	T Value	Significance Level (sig)	Decision
Sociability	Pre-Test	15	13.33	1.49	14	-2.69	0.018	Significant at 0.05
	Post-Test	15	15.60	2.69				

It is evident from Table 7 that the pre-test mean for sociability was 13.33, with a standard deviation of 1.49, which is lower than the post-test mean of 15.60, with a standard deviation of 2.69. The T-test value for the difference was -2.69, with a significance level (SIG) of 0.018, which is statistically significant as it is below the threshold of ($\alpha = 0.05$). This indicates that the proposed recreational sports program positively impacted the increase in sociability levels among hearing-impaired children in the post-test. Consequently, we conclude that "there are statistically significant differences between the pre-test and post-test measurements, favoring the post-test for sociability levels in hearing-impaired children." The confidence level for this result is 95%, with a 5% margin of error.

The researchers believe that recreational play allows hearing-impaired children to express themselves freely without restrictions. For these children, play offers an opportunity to release conflicts, reduce tension, and is an effective way to channel negative thoughts. The researchers attribute the positive impact of the recreational program to the opportunities it provides for participating in various recreational activities. These activities contribute to improving social interaction behaviors, releasing excess energy and emotions stemming from frustration, solving problems, and enhancing interaction with others. This program helps direct impulsive behavior towards purposeful and effective actions, giving them the ability to channel anxiety and stress into play rather than towards peers. Engaging hearing-impaired children in play activities instills valuable traits, occupies their time productively, and brings them joy, friendship, and self-confidence.

5. Presentation and Interpretation of Results for the Fifth Hypothesis:

The fifth hypothesis of this study stated: "There are statistically significant differences between the pre-test and post-test mean scores for aggressiveness levels in hearing-impaired children."

To verify this hypothesis, a T-test for statistical significance was used. After conducting the statistical analysis, the following result was obtained:

Table 8: Differences Between Pre-Test and Post-Test Mean Scores in Aggressiveness

Shapiro-Wilk Test	Significance Level 0.344 / 0.521	Result: Normal distribution			Appropriate Test: Paired Samples T-test			
Recreational Sports Program		Sample Size	Mean	Standard Deviation	Degrees of Freedom	T Value	Significance Level (sig)	Decision
Aggressiveness	Pre-Test	15	14.20	4.34	14	3.86	0.002	Significant at 0.05
	Post-Test	15	9.00	2.23				

It is evident from Table 8 that the pre-test mean for aggressiveness was 14.20, with a standard deviation of 4.34, which is higher than the post-test mean of 9.00, with a standard deviation of 2.23. The T-test value for the difference was 3.86, with a significance level (SIG) of 0.002, which is statistically significant as it is below the threshold of ($\alpha = 0.05$). This indicates that the proposed recreational sports program effectively reduced aggressiveness levels in hearing-impaired children in the post-test. Consequently, we conclude that "there are statistically significant differences between the pre-test and post-test measurements, favoring the post-test for aggressiveness levels in hearing-impaired children." The confidence level for this result is 95%, with a 5% margin of error.

The researchers suggest that a degree of aggressiveness is natural in hearing-impaired children. A lack of aggression might indicate an underlying psychological or physiological issue. Many hearing-impaired children experience frustration compared to their non-disabled peers, leading to spontaneous forms of aggression due to accumulated frustration and unexpressed emotions. Aggressiveness is an instinctive biological drive, and thus, aggressive behaviors observed during sports should be guided. In competitive settings, frustration from being obstructed by an opponent can prompt aggression. However, the proposed recreational sports program fosters friendship and tolerance during competition, reducing aggression levels among hearing-impaired children by redirecting aggressive impulses towards the activity itself. Through repeated exercises and structured play, children learn to channel aggression constructively, aiming for goals and facing opponents assertively without harm.

6. Presentation and Interpretation of Results for the Sixth Hypothesis:

The sixth hypothesis of this study stated: "There are statistically significant differences between the pre-test and post-test mean scores for control levels in hearing-impaired children."

To verify this hypothesis, a T-test for statistical significance was used. After conducting the statistical analysis, the following result was obtained:

Table 9: Differences Between Pre-Test and Post-Test Mean Scores in Control

Shapiro-Wilk Test	Significance Level 0.120 / 0.249	Result: Normal distribution			Appropriate Test: Paired Samples T-test			
Recreational Sports Program		Sample Size	Mean	Standard Deviation	Degrees of Freedom	T Value	Significance Level (sig)	Decision
Control	Pre-Test	15	15.00	2.39	14	5.08	0.000	Significant at 0.05
	Post-Test	15	11.53	2.29				

It is evident from Table 9 that the pre-test mean for control was 15.00, with a standard deviation of 2.39, which is higher than the post-test mean of 11.53, with a standard deviation of 2.29. The T-test value for the difference was 5.08, with a significance level (SIG) of 0.000, which is statistically significant as it is below the threshold of ($\alpha = 0.05$). This indicates that the proposed recreational sports program effectively reduced the control trait in hearing-impaired children in the post-test. Consequently, we conclude that "there are statistically significant differences between the pre-test and post-test measurements, favoring the post-test for control levels in hearing-impaired children." The confidence level for this result is 95%, with a 5% margin of error.

The researchers consider this trait negative, suggesting that it should be reduced in hearing-impaired children, as heightened control may lead to fears and risky behaviors. Unlike non-disabled children, hearing-impaired children may exhibit controlling behaviors as a way of asserting themselves or due to feelings of isolation, with the absence of a fully developed sense of self-regulation. An elevated control trait may lead them to perceive the outside world as hostile, increasing the trait further. The recreational sports program enforces strict rules applied to all participants, impacting their thought patterns by aligning their behaviors with the program's guidelines. The program also encourages cooperation to achieve victory or shared goals, fostering positive attitudes towards recreational play and benefiting hearing-impaired children.

7. Presentation and Interpretation of Results for the General Hypothesis:

The general hypothesis stated that the proposed recreational sports program would positively impact certain personality traits in hearing-impaired children.

To verify this hypothesis, Cohen's D test for practical significance was used to measure the effect of the proposed recreational sports program. After conducting the statistical analysis, the following result was obtained:

Table 10: Effect Size of the Recreational Sports Program by Measured Dimensions

Dimensions	Nervousness	Depression	Excitability	Sociability	Aggressiveness	Control
Calculated T Value	2.99	3.90	6.95	2.69	3.86	5.08
Cohen's d	0.77	1.00	1.79	0.71	0.99	1.31

From Table 10, which shows the effect size of the recreational program on the dependent variable (personality traits) for the study sample, we observe that Cohen's d values range between 0.71 and 1.79. These high values indicate that the difference between the means for each dimension is not only statistically significant but also practically significant. This suggests that the proposed recreational sports program has a tangible effect for the targeted sample, indicating its potential applicability to other groups.

The researchers conclude that the proposed recreational sports program positively impacts the psychological state of hearing-impaired children by altering their mood in various ways, such as providing a range of emotional and affective responses. The program instills excitement and joy during participation, helping transform traits into positive states that encourage hearing-impaired children to diversify their positive thoughts and responses to their environment. These adaptive responses to social situations, such as calmness and acceptance of non-disabled peers, indicate successful social integration. The proposed recreational program also benefits hearing-impaired individuals by correcting physical flaws, reducing psychological stress, and fostering good social habits, moral behavior, and problem-solving skills. Furthermore, the program brings enjoyment, teaching useful tools and skills.

Conclusion

The purpose of this research is to address certain psychological challenges and negative personality traits faced by students with hearing impairments in special education. This study investigates the effect of recreational sports activities on developing positive personality traits, including reducing nervousness, aggressiveness, and depression. These traits tend to be more pronounced in the early stages of life due to the psychological pressures and deficits caused by disability, as well as negative perceptions of society as adversarial.

Recreational sports, a well-regarded focus among researchers and specialists, is highlighted in this study for its significant benefits for all demographics, including children, adolescents, the elderly,
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and individuals with special needs, who require additional support to overcome psychological challenges. This study on the effect of a proposed recreational sports program aims to promote personality development in hearing-impaired children.

Based on the analysis of results, the researcher concludes that recreational sports activities positively impact hearing-impaired children by enhancing and guiding their personality traits, improving social, physical, cognitive, and emotional aspects, and reducing stress, depression, anger, and fatigue. The improved mood and self-concept, along with increased feelings of competence and enjoyment, contribute to greater psychological benefits and a sense of control. Engagement in recreational activities fosters a state of psychological well-being, characterized by mental clarity and a sense of belonging, helping them feel less burdened by their disability and more integrated within society.

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